

# MircoSight Spectroscopic Microplastics Detection System

ASTRI's MicroSight revolutionises water quality monitoring. This portable, cost-effective device combines microscopic hyperspectral imaging with laser-induced fluorescence enhancement to rapidly screen and identify microplastic types and concentrations in real time. Operating at 10-micrometre resolution, the system delivers laboratory-grade analysis at the point of collection. This provides water suppliers and regulators with an accessible tool to safeguard drinking water from this invisible contaminant.

## Industry Challenges

- Over 430 million tonnes of plastic produced annually worldwide, the threat of microplastic pollution is alarming
- Features a portable and cost-effective microscopic hyperspectral imaging device

## Major Benefits

- **Real-Time Detection:** Custom-designed flow cell enables continuous monitoring without sample preparation delays
- **Exceptional Resolution:** Line-scan laser technology detects particles down to 10 micrometres—invisible to conventional methods
- **Actionable Intelligence:** Automatically quantifies particle size, concentration and polymer type for immediate decision-making
- **Field-Deployable:** Portable design brings laboratory capabilities directly to treatment plants and distribution points

## Application Areas

- **Water Safety:** Real-time monitoring at treatment facilities and distribution networks to ensure safe drinking water
- **Quality Control:** Bottled-water production-line verification for microplastic-free certification and premium branding
- **Environmental Monitoring:** Source water assessment for rivers, reservoirs and groundwater supplies

## Collaborator(s)

Government department

## Award(s)

International Exhibition of Inventions Geneva



Based on a spectrum analysis algorithm, it can distinguish different types of microplastics (PE, PET, PVC, PS), suitable for quality control of food or bottled water

